Detroit Stoker Company

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July 31, 2005

Mr. Howard B. Bernstein
RPS Program Manger
MA Division of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Subject: Comments to the July 12, 2005 Biomass
Energy Working Group

Dear Mr. Bernstein,

First, I would like to thank you for the opportunity to attend and provide comments for the subject meeting. We believe that the DOER is understanding of the needs of Massachusetts to develop renewable energy sources in conjunction with improving air quality. The concern would be having governmental regulations specifying or even favoring a technology to meet emissions standards. Industry should be free to pursue the lowest cost option that still meets the applicable standards.

During this meeting, comments were requested in regards to stokers and if they should be considered low-emission, advanced biomass power conversion technologies. Those responding indicated that they should be. My response was concentrated in two (2) areas:

- Evolving technologies applied to spreader stoker fired units.
- Spreader stokers' ability to fire a wide range of fuels and fuel quality.

The technologies of stoker firing continue to grow. Use of staged combustion air systems, sectionalized primary air systems, advances in fuel metering and distribution systems, improved combustion controls / instrumentation, boiler designs, reburn technology and other post combustion processes of SNCR and SCR have all maintained spreader stokers as an acceptable combustion technology in the global market. There have been changes to the basic grate design and operation; most noticeably the continuous ash discharge, water-cooled stoker which has the potential to reduce emissions and increased overall performance. However, the majority of specific grate designs/upgrades have focused on availability and reliability requirements. During the morning presentation by the Northeast Combined Heat and Power Application Center there was a slide suggesting a minimum availability of a renewable resource system would be 3,000 hours. As a point of reference our customers require a minimum of 8,000 hours/year.

I also commented on our experiences in Western Europe, which have requirements for low emissions, as compared to North America. For further reference I have included a technical paper on these experiences.

While the technical paper indicates substantial reduction in emissions then normally obtained by stoker fired, biomass units; it must be remembered that these facilities were designed and constructed to specifically meet the regulations. While retrofits for existing units can provide substantial reduction, in most, if not all areas of emissions, the current in-furnace and post-combustion reduction will not be capable of the proposed emissions values.

The emissions limits noted in tables 3 & 4 of the Notice of Inquiry are low, regardless of the combustion system used. New facilities will be looking at a combination of in-furnace combustion and post-combustion technologies to achieve these values. Complicating matters is the inherent inverse relationship of CO and NOx. We would have you note that typical European compliance is for low CO values and moderate NOx values (SNCR use is typical). Therefore if ultra-low NOx values are to be obtained then relaxation of CO limits is often reviewed.

One of the major attributes of spreader stoker combustion systems are their ability to accurately perform using a wide range of fuels. From low moisture process dusts, shells / hulls and construction debris; to agricultural products, such as chicken litter; to high moisture whole tree chips, sludges, bagasse and forest waste. Fuel costs continue to rise in all sectors. This includes the biomass market which our customers continue to find alternate, lower cost fuels to sustain their operations. This inherent flexibility may not be of immediate importance as the New England states have enjoyed availability of whole tree chips for biomass combustion. Yet, there is no reason not to believe that the sources and availability of biomass fuels will continue to change.

Again, we thank you for the opportunity to attend the July 12th meeting and should you have any questions or concerns please do not hesitate contacting me.

Sincerely,

Robert S. Morrow
Senior Technical Manager
Detroit Stoker Company